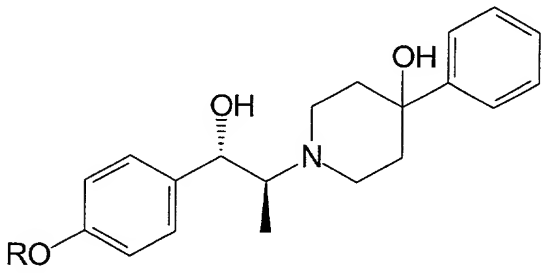
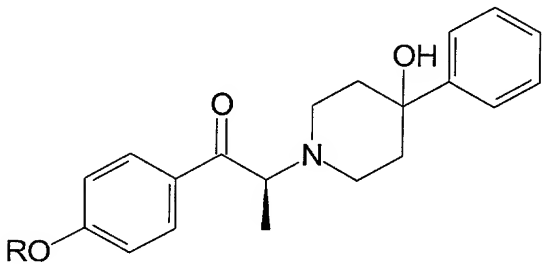
CLAIMS:

1. A process for the preparation of a nonracemic diastereomer selected from 1-(4-hydroxy-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1-propanol compounds of the structural formula I and stereoisomers thereof,



I

wherein R is selected from hydrogen and hydroxyl protecting groups, comprising hydrogenating a corresponding nonracemic ketone selected from 1-(4-hydroxy-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1-propanone compounds of the structural formula II and enantiomers thereof,

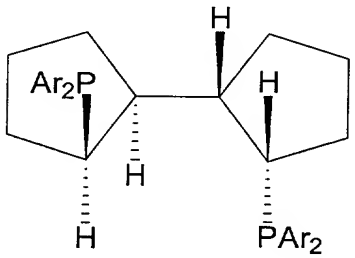


II

in the presence of a catalyst system comprising ruthenium, a nonracemic diphosphine ligand, a bidentate amine ligand selected from amino-thioethers and achiral diamines, and a base.

2. The process of claim **1** wherein the nonracemic diphosphine ligand comprises a 2,2'-bis(diorganophosphino)-1,1'-bis(cyclic) structure.

3. The process of claim **2** wherein the nonracemic diphosphine ligand is selected from enantiomers of diphosphine ligands having the structural formula



wherein Ar is an aryl group.

4. The process of claim **3** wherein Ar is phenyl.

5. The process of claim **1** wherein the bidentate amine ligand is an amino-thioether.

6. The process of claim **5** wherein the amino-thioether is a 2-(alkylthio)aniline.

7. The process of claim **6** wherein the 2-(alkylthio)aniline is selected from 2-(methylthio)aniline and 2-(ethylthio)aniline.

8. The process of claim **1** wherein the bidentate amine ligand is an achiral diamine.

9. The process of claim **8** wherein the achiral diamine comprises no chiral carbon centers.

10. The process of claim **8** wherein the achiral diamine is a 1,2-phenylene-diamine.

11. The process of claim **1** wherein the base is selected from basic inorganic and organic salts, alkylguanidines, aminophosphazenes, and proazaphosphatranes.

12. The process of claim **11** wherein the base is selected from alkylguanidines, aminophosphazenes, and proazaphosphatranes.

13. The process of claim **12** wherein the base is an alkylguanidine.

14. The process of claim **13** wherein the base is a pentaalkylguanidine.

15. The process of claim **1** wherein the hydroxyl protecting group is benzyl.

16. The process of claim **15** wherein the diastereomer is a *syn*-diastereomer.

17. The process of claim **16** wherein the *syn*-diastereomer is the (1*S*,2*S*) diastereomer.

18. The process of claim **16** wherein the *syn*-diastereomer is formed in at least about 90% diastereomeric excess.

19. A process for the preparation of (1*S*,2*S*)-1-(4-benzoxy-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1- by catalytic hydrogenation of (2*S*)-1-(4-benzyl-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1-propanone using a catalyst system comprising ruthenium, a (*S*,*S*,*S*,*S*)-2,2'-bis-(diarylphosphino)-1,1'-dicyclopentane ligand, a 1,2-phenylene diamine ligand, and a base.

20. A process for the preparation of (1*S*,2*S*)-1-(4-benzoxy-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1- by catalytic hydrogenation of (2*S*)-1-(4-benzyl-phenyl)-2-(4-hydroxy-4-phenyl-piperidin-1-yl)-1-propanone using a catalyst system comprising ruthenium, a (*S*,*S*,*S*,*S*)-2,2'-bis-(diarylphosphino)-1,1'-dicyclopentane ligand, a 2-(alkylthio)aniline ligand, and a base.